

## Section 416

When embankment placement around the structure is part of another contract, the portion of the subsurface drainage system described above, which is located in such embankment, is not part of the work of this section.

### 414-9 MEASUREMENT AND PAYMENT

The prices and payments below will be full compensation for all items required to complete box culvert excavation including, but not limited to, those items in Article 414-1.

*Foundation Conditioning Material, Box Culvert* will be measured and paid in tons of material that is placed within the established limits. The number of tons of material is determined by weighing the material in trucks in accordance with Article 106-7. No deduction will be made for any moisture contained in the material at the time of weighing. Such price and payment will be full compensation for all excavation made below the bottom of the barrel and wing footings in addition to furnishing, hauling and placing the foundation conditioning material.

*Culvert Excavation, Sta. \_\_\_\_* will be paid at the contract lump sum price. No measurement for payment will be made for this pay item, and no adjustment in the contract lump sum price will be made unless the size, length, elevation or location of the culvert is revised. If the size, length, elevation or location of the culvert is revised, such revision will be an alteration of plans or details of construction in accordance with Article 104-3.

Where it is necessary to provide backfill material from sources other than excavated areas or borrow sources used in connection with other work in the contract, payment for furnishing and hauling such backfill material will be paid as extra work in accordance with Article 104-7. Placing and compacting such backfill material is not extra work but is incidental to the work being performed.

Payment will be made under:

Pay Item	Pay Unit
Culvert Excavation, Sta. ____	Lump Sum
Foundation Conditioning Material, Box Culvert	Ton

## SECTION 416 CHANNEL EXCAVATION

### 416-1 DESCRIPTION

Excavate any material outside of the pay limits of foundation excavation, unclassified structure excavation or box culvert excavation, which is classified as channel excavation in the plans. Place suitable excavated material as directed, drain and divert water, pump, blast, haul, dispose of materials and backfill.

Do not deposit excavated materials, nor construct earth dikes or other temporary earth structures in rivers, streams or impoundment or so near to such waters that they are carried into any river, stream or impoundment by stream flow or surface runoff.

### 416-2 CONSTRUCTION METHODS

Notify the Engineer a sufficient time before beginning the excavation so measurements may be taken of the undisturbed ground. Do not disturb the existing ground without permission.

Remove and dispose of boulders, vegetative material and any other objectionable material.

Use and place suitable excavated material in accordance with Articles 410-7 and 410-8.

### 416-3 MEASUREMENT AND PAYMENT

Channel excavation will be measured and paid on a cubic yard basis. Materials will be measured in their original position within the limits described below and computed by the average end area method, that are acceptably excavated in accordance with the contract or as directed.

- 1 The upper limits for measurement are the actual ground surface at the time of starting work.  
 2 The lower limits for measurement are established by the plans or as directed in writing.  
 3 No measurement is made of the following excavation:  
 4 (A) Mud, muck or similar semi-solid material which can be drained away or pumped without  
 5 the use of a jet or nozzle.  
 6 (B) Excavation before the Engineer makes measurements of the undisturbed ground.  
 7 (C) Excavation that is within the pay limits of other excavation.  
 8 (D) Excavation that is outside of the limits shown in the plans or as directed in writing.  
 9 Where the item *Channel Excavation* is not included in the contract, no measurement or  
 10 payment is made of any channel excavation, as payment at the contract unit or lump sum price  
 11 for the various items in the contract will be full compensation for the work covered by this  
 12 section.  
 13 This price and payment will be full compensation for all items required to complete channel  
 14 excavation.  
 15 Payment will be made under:

Pay Item	Pay Unit
Channel Excavation	Cubic Yard

## SECTION 420 CONCRETE STRUCTURES

### 420-1 DESCRIPTION

Construct cast-in-place concrete structures and the cast-in-place concrete portions of composite structures in conformity with the lines, grades and dimensions shown in the contract. Furnish and place concrete, joint filler and sealer, curing agents, epoxy protective coating, deck drains, expansion anchors and any other material; erect and remove all falsework and forms; protect concrete in wind, rain, low humidity, high temperatures or other unfavorable weather; construct joints and weep holes; finish and cure concrete; protect concrete from rust stains; and groove bridge floors. For reinforced concrete deck slabs, in addition to the above, furnish and place reinforcing steel and bridge scuppers; and design, furnish, erect and remove all bridge deck forms including any appurtenances required by the Engineer to stabilize exterior girders during overhang construction.

### 420-2 MATERIALS

Refer to Division 10.

Item	Section
Calcium Nitrite Corrosion Inhibitor	1000-4(K)
Curing Agents	1026
Deck Drains	1054-1
Epoxy Protective Coating	1081
Expansion Anchors	1074-2
Joint Fillers	1028-1
Joint Sealers	1028
Metal Stay-in-Place Forms	1074-12
Portland Cement Concrete	1000
Reinforcing Steel	1070